What is claimed is:

1. A ferroelectric film manufacturing method comprising the steps of:

forming a buffer layer, which also functions as a sacrificial layer, on a single crystal substrate;

forming a ferroelectric film on the buffer layer;

separating the ferroelectric film and the single crystal substrate; and

arranging the ferroelectric film that was separated from the single crystal substrate on any substrates.

2. A ferroelectric element manufacturing method comprising the steps of:

forming a buffer layer, which also functions as a sacrificial layer, on a single crystal substrate;

forming a ferroelectric element on the buffer layer;

separating the ferroelectric element and the single crystal substrate; and

arranging the ferroelectric element that was separated from the single crystal substrate on any substrates.

3. A ferroelectric element manufacturing method according to claim 2, wherein the buffer layer comprises at least a metal oxide with an NaCl structure and/or a YBaCuO-type compound with a layered perovskite structure.

4. A ferroelectric element manufacturing method according to claim 2, the step of separating the ferroelectric element and the single crystal substrate comprising the steps of:

pasting a supportable material for supporting the ferroelectric element over a top face of the ferroelectric element; and

separating the ferroelectric element from the single crystal substrate by etching the buffer layer, after the supportable material has been pasted.

5. A ferroelectric element manufacturing method according to claim 4, the step of arranging the ferroelectric element that was separated from the single crystal substrate on any substrates comprising the steps of:

applying adhesive over a top face of any substrates and a bottom face of the ferroelectric element, and joining the separated ferroelectric element to any substrates; and

removing the supportable material that was pasted on the top face of the ferroelectric element.

6. A ferroelectric element manufacturing method according to claim 4, wherein, in a case where a plurality of the ferroelectric elements are formed on the single crystal substrate, the step of separating the ferroelectric elements and the single crystal substrate comprises a step of forming grooves, which extend as far as the buffer layer, between the ferroelectric elements, prior to the step of pasting the supportable material for supporting the ferroelectric elements over the top faces of the ferroelectric elements.

7. A surface acoustic wave element comprising a piezoelectric thin film, which comprises the ferroelectric film obtained by the ferroelectric film manufacturing method according to claim 1.

8. A surface acoustic wave element comprising a piezoelectric element, which comprises the ferroelectric element obtained by the ferroelectric element manufacturing method according to claim 2.

9. A frequency filter comprising:

a first electrode, formed on the piezoelectric thin film of the surface acoustic wave element according to claim 7 or on a protective film that is provided on the piezoelectric thin film; and

a second electrode, formed on the piezoelectric thin film or the protective film, the second electrode resonating at a specific frequency, or a specific band of frequencies, of surface acoustic waves, which are created in the piezoelectric thin film by an electrical signal applied to the first electrode, and converting the surface acoustic waves to an electrical signal.

10. A frequency filter comprising:

a first electrode, formed on the piezoelectric thin film of the surface acoustic wave element according to claim 8 or on a protective film that is provided on the piezoelectric thin film; and

a second electrode, formed on the piezoelectric thin film or the protective film, the second electrode resonating at a specific frequency, or a specific band of frequencies, of surface acoustic waves, which are created in the piezoelectric thin film by an electrical signal applied to the first electrode, and converting the surface acoustic waves to an electrical signal.

11. An oscillator comprising:

an electrode for applying electrical signals, formed on the piezoelectric thin film of the surface acoustic wave element according to claim 7 or on a protective film that is provided on the piezoelectric thin film, the electrode generating surface acoustic waves in the piezoelectric thin film by using the applied electrical signals; and

an oscillating circuit equipped with an electrode for resonance and a transistor, the oscillating circuit being formed on the piezoelectric thin film or the protective film, and resonating specific frequency components, or a specific band of frequency components, of the surface acoustic waves that were generated by the electrode for applying electrical signals.

12. An oscillator comprising:

an electrode for applying electrical signals, formed on the piezoelectric thin film of the surface acoustic wave element according to claim 8 or on a protective film that is provided on the piezoelectric thin film, the electrode generating surface acoustic waves in the piezoelectric thin film by using the applied electrical signals; and

an oscillating circuit equipped with an electrode for resonance and a transistor, the oscillating circuit being formed on the piezoelectric thin film or the protective film, and resonating specific frequency components, or a specific band of frequency components, of the surface acoustic waves that were generated by the electrode for applying electrical signals.

13. An electronic circuit comprising:

the oscillator according to claim 11; and

an electrical signal supply element, which applies electrical signals to the

electrode for applying electrical signals, provided in the oscillator;

the electronic circuit having the functions of selecting specific frequency components from frequency components of electrical signals, or converting it to specific frequency components, and modulating electrical signals in a predetermined manner, demodulating it in a predetermined manner, or detecting waves in a predetermined manner.

14. An electronic circuit comprising:

the oscillator according to claim 12; and

an electrical signal supply element, which applies electrical signals to the electrode for applying electrical signals, provided in the oscillator;

the electronic circuit having the functions of selecting specific frequency components from frequency components of electrical signals, or converting it to specific frequency components, and modulating electrical signals in a predetermined manner, demodulating it in a predetermined manner, or detecting waves in a predetermined manner.

15. An electronic apparatus comprising the frequency filter according to claim 9.

16. An electronic apparatus comprising the frequency filter according to claim 10.

17. An electronic apparatus comprising the oscillator according to claim 11.

18. An electronic apparatus comprising the oscillator according to claim 12.

19. An electronic apparatus comprising the electronic circuit according to claim 13.

20. An electronic apparatus comprising the electronic circuit according to claim 14.